

SENIOR ENGINEERING TECHNICIAN

POSITION SUMMARY: This position is responsible for various phases of highly detailed and technical engineering and project work such as survey, design, inspection, traffic and utility plant related work. This position is responsible for the preparation of detailed records and reports as well as the preparation of correspondence. This position works with a diverse group of external contact as well as internal contacts at different levels of the organization. Employees in this class will exercise leadership within their immediate work group. Within its prescribed limits, work is performed on large complicated projects with considerable independence without close supervision. Independent judgment is required to plan, prioritize and organize a diversified work load. This position performs related work as required.

SUPERVISION RECEIVED: Work is performed under the general supervision of Utility Plant Superintendent, Assistant Director of Public Works, or designee.

ESSENTIAL JOB FUNCTIONS: *An employee in this position may be called upon to do any or all of the following essential functions. These examples do not include all of the duties which the employee may be expected to perform. To perform this job successfully, an individual must be able to perform each essential function satisfactorily.*

1. Conducts all duties of an Engineering Technician.
2. Performs related work as required.

If assigned to Engineering, examples of work may include:

- Performs testing of materials on construction site.
- Designs of complicated and detailed municipal construction projects including the preparation of specifications and plans. This may require the use of appropriate software to perform tasks.
- Reviews construction plans for compliance with street and utility specifications.
- Inspects and reviews municipal and MDOT local agency projects of a complicated nature.
- Prepares and reviews contractor payment estimates.

If assigned to Traffic, examples of work include:

- Collects and analyzes traffic data and evaluates remedies related to safety concerns and provides recommendations for solutions.
- Investigates and communicates complaints from the public regarding all phases of traffic control activities, including safety and/or site distance concerns.
- Conducts various traffic studies such as condition surveys, volume analyses, accident analyses, regulatory control warrants and speed. Analyzes data and provides recommendations for capacity and condition improvements.
- Drafts graphic presentations such as street layouts, collision diagrams and traffic pattern changes.
- Reviews traffic impact analysis prepared by independent consultant for accuracy.

If assigned to Utilities, examples of work include:

- Prepares, gathers, assembles, maintains and organizes documentation on plant equipment.
- Conducts orientation and training on the use of manuals and equipment.
- Manages, implements, and optimizes maintenance management software systems.
- Designs and monitors in-house projects and improvements.
- Implements, reviews, and oversees contracted projects and improvements.
- Catalogs and updates Maintenance library information.
- Prepares and reviews contractor pay estimates.
- Supports Asset Management Programs.
- Assists with Plant process optimization.
- Plans and gives engineering support for transmission main dewatering operations.

KNOWLEDGE, SKILLS AND ABILITIES: *The requirements listed below are representative of the knowledge, skills, abilities and minimum qualifications necessary to perform the essential functions of the position. A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.*

- A. An Associate's degree in an applicable field and four years of experience as an Engineering Technician or applicable position. An equivalent combination of education, training, and experience may substitute for the degree requirement.
- B. Demonstrates proficiency in all aspects of the essential job functions of the Engineering Technician Position.
- C. Ability to complete skilled drafting and office engineering calculations.
- D. Knowledge of construction and inspection practices and modern engineering methods.
- E. Capable of independently and safely moving in and around construction and project sites and carrying equipment necessary to carry out duties.
- F. Demonstrates knowledge of, or ability to learn primary department functions as well as functions of the City as a whole.
- G. Demonstrates proficiency in the use of computers and software programs process data, produce reports, and maintain records and the ability to learn other programs as required.
- H. Proven ability to work as a team, possesses self-supervising attributes, and a positive, congenial attitude. Has established effective working relationships and use tact, independent judgment and resourcefulness when working with contractors, vendors, staff, public, and other governmental agencies.

- I. Ability to maintain a comprehensive record keeping system, assemble and present accurate reports and records and compile statistics. Possesses excellent organizational skills and an ability to problem solve.
- J. Ability to travel to various locations both in and out of the City to receive additional training as deemed necessary.
- K. Ability to train and mentor seasonal, part time staff and full time staff as needed.
- L. Possession of a valid Michigan motor vehicle valid operator's license.

If assigned to Engineering:

- Possess and maintain Waterworks System Operator license(s) issued by the MDEQ.
- Certification in MDOT Field Management Training or current MDOT construction administrative software.
- Knowledge of advanced principles, practices and methods of civil engineering and recent experience in sub-professional civil engineering work.
- Extensive experience in the design and review of municipal or large federal projects and demonstrates knowledge of and ability to perform the inspection and testing of municipal projects.
- Considerable knowledge of relevant technology and/or devices required to perform design, inspection and locating duties.

If assigned to Traffic, required qualifications include:

- Must possess and maintain certifications through International Municipal Signal Association in Construction Work Zone and Signs & Markings Level II. Must maintain said licenses.
- Experience in Michigan Manual of Uniform Traffic Control Devices, with special attention to Part VI on Construction Work Zones.
- Experience in basic traffic statistical survey methods and procedures.
- Ability to effectively conduct traffic data surveys and to compile statistical data collected in understandable and useful form.

If assigned to Utilities, required qualifications include:

- Possession of F4 or D Municipal Water or Wastewater Operator's license as issued by MDEQ. Must maintain said licenses.
- Proven ability to understand and maneuver within a SCADA system to effect changes to plant process.
- Advanced understanding and demonstrated ability to assemble and use operation and maintenance manuals and equipment.
- Knowledge and literacy of CADD programs.
- Knowledge and understanding of the basic treatment processes in use at the Utility Plants.

- Knowledge and ability to operate Plant process equipment.
- Project management skills.

PHYSICAL DEMANDS AND WORK ENVIRONMENT: *The physical demands and work environment characteristics described here are representative of those an employee encounters while performing the essential functions of the job. A qualified individual with a disability must be able to perform the essential functions of the position with or without reasonable accommodation.*

While performing the duties of this job, the employee is regularly required to talk or hear. While performing the duties of this job, the employee is regularly required to communicate with others and view and produce written documents. The employee frequently is required to sit; use hands to finger, handle, or feel; and reach with hands and arms. The employee must frequently lift and move and lift items of considerable weight, including manhole covers. Bending and stooping are also frequent requirements.

While performing the duties of this job, the employee regularly works in the field and occasionally in a business office setting. The noise level in the work environment ranges from noisy in the field to quiet in the office. While working in the field, circumstances may occur that are very strenuous and may involve working with hazardous materials and require the donning of appropriate protective gear. The employee may be exposed to uncontrollable environments and circumstances, which may include working in confined spaces, at various heights and in all types of weather conditions. The employee is required to drive in inclement weather.

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